Answers to Questions from P2.1

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How many Counter objects were created?

There are 3 created object in total. They are stored in a array called *"myCounters"*

Variables declared in main() are different to the objects created when we call new. What is the relationship between the declared variables in main and the objects created?

Variables that we declared in the main reference to objects.

Resetting the counter in myCounters[2] also changes the value of the counter in myCounters[0]. Why does this happen?

myCounters[2] and myCounters[0] reference to the same object (or address). Thereore, if we modify *myCounters[2], myCounters[0]* will also change its value.

The key difference between memory on the heap compared to the stack and the heap is that the heap holds dynamically allocated memory. What does this mean ?

Dynamic memory allocation is the technique of assigning memory space during execution. While stack stores data with the using of Last In Last Out technique, which means that it can only add or remove data (or object) from the top ones.

On which are objects allocated (heap or stack) ? On which are local variables allocated (heap or stack) ?

Objects are allocated on the heap
Local variables are allocated on the stack

What does the new() method do when called for a particular class What does it do and what does it return?

When new is called on a class, It first allocates the necessary memory before returning a reference to the object through a memory address.

Draw a diagram showing the locations of the variables and objects in main.